

OCD-ARTESIA

ATS-10-535

Form 3160-3  
(April 2004)FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 2007UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No  
NM-92160, NM-94840, Fee  
6. If Indian, Allottee or Tribe Name1a Type of Work: ☒ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No

Pending

1b Type of Well. ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No

Chosa Draw 27 Federal Com No. 7 H

2. Name of Operator

Cimarex Energy Co. of Colorado (162683)

9. API Well No.

30-015-39290

3a. Address

600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. (include area code)

432-571-7800

10. Field and Pool, or Exploratory

SALE DRAW Wolfcamp Wildcat E, 1951 96890

4 Location of Well (Report location clearly and in accordance with any State requirements.)\*

At Surface 2320 FNL &amp; 400 FEL

At proposed prod Zone 1980 FNL &amp; 660 FWL

UNORTHODOX  
Surface LOCATION  
Horizontal Wolfcamp Test

11. Sec., T, R, M or Blk and Survey or Area

27-255-26E

14. Distance in miles and direction from nearest town or post office\*

12. County or Parish

Eddy

13. State

NM

15 Distance from proposed\*

location to nearest  
property or lease line, ft  
(Also to nearest drg unit line if  
any)

320

16 No of acres in lease

NM-92160 - 1320 acres

NM-94840 - 40 acres

17. Spacing Unit dedicated to this well

N2 320 acres

18 Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft

658

19. Proposed Depth

Pilot Hole 10250

MD 13708, TVD 9465

20. BLM/BIA Bond No. on File

NM-2575

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3360' GR

22. Approximate date work will start\*

06.01.11

23. Estimated duration

30-35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |  |  |
|--|--|
| 1 Well plat certified by a registered surveyor   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)   |
| 2. A Drilling Plan   | 5. Operator Certification  |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6 Such other site specific information and/or plans as may be required by the authorized officer |

25 Signature

Zeno Farris

Name (Printed/Typed)

Zeno Farris

Date

03.17.11

Title

Manager Operations Administration

Approved By (Signature)

Ts/ Don Peterson

Name (Printed/Typed)

Office CARLSBAD FIELD OFFICE

Title

FIELD MANAGER



Date JUL 25 2011

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

\* (Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVALApproval Subject to General Requirements  
& Special Stipulations Attached

Application to Drill  
**Chosa Draw 27 Federal Com No. 7**  
Cimarex Energy Co. of Colorado  
Unit H, Section 27  
T25S-R26E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 2320 FNL & 400 FEL  
BHL 1980 FNL & 660 FWL
2. Elevation above sea level: 3360' GR
3. Geologic name of surface formation: Quaternary Alluvium Deposits
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: MD 13708, TVD 9465 Pilot Hole 10250
6. Estimated tops of geological markers:

Rustler	Spotty, N/A	Bone Spring "A" Shale	5574
Top Salt	1023	Bone Spring "C" Shale	5830
Base Salt	1616	1st Bone Spring Ss	6330
Delaware	1816	2nd Bone Spring Ss	6882
Cherry Canyon	2802	2nd BS Ss Lower	7608
Brushy Canyon	3825	3rd Bone Spring Ss	8194
Bone Spring	5341	Wolfcamp	8542
7. Possible mineral bearing formations:

Wolfcamp	Gas
Bone Spring	Gas
Delaware	Oil
8. Proposed drilling Plan

Drill 8½" hole to 9168 and set 7" casing from 0-9168 and cement. Then drill out of 7" shoe with 6½" bit to pilot hole TD @ 10250 and log. Cement pilot hole with 250 Sks 16.5 ppg Yiled 1.06 PlugCem H + 0.6% CFR-3 +0.2% HR-601. Dress off cement and kick off of cement plug with 6½" bit @ 9268 to drill lateral. Drill to TD 13708 MD, 9645 TVD and run 4½" liner from liner hanger at 8968 to TD and cement liner.

Application to Drill  
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9. Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	450	8.4 - 8.8	30-32	NC	FW spud mud. Add FW to control weight & viscosity and paper to prevent seepage.
450	to	1766	10	28-29	NC	Saturated Brine. Sweep as needed to clean hole.
1766	to	9168	9.0	28-30	NC	Cut brine. Sweep as needed to clean hole.
9168	to	13708	12.0	28-32	NC	OBM

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

10. Casing Program:

	Hole Size	Depth		Casing OD		Weight	Collar	Grade
Surface	17½"	0	to 450	New	13½"	48#	STC	H-40
Intermediate	12½"	0	to 1766	New	9½"	40#	LTC	J-55
Production	8½"	0	to 9168	New	7"	26#	LTC	P-110
Liner	6½"	8968	to 13708	New	4½"	11.6#	BTC/LTC*	P-110

\*BTC from 8886-9386 (EOC) and LTC from 9386-13671

11. Cementing Program:

See COA	Surface Excess 100%	Lead: 176 sx (C) +2% S1+2%D46 YIELD 1.97 Tail: 235 sx. (C) +1% S1 YIELD 1.34. <b>TOC Surface Centralizers per Onshorder 2.III.B.1.f</b>
	Intermediate Excess 25%	Lead: 249 sx. (C) 4% D20 + .2% D46 + 1% S1. YIELD 1.96, MIX WATER 10.85, WT. 12.9 Tail: 173 sx. (C) + .1% D13. YIELD 1.33, MIX WATER 3.36, WT. 14.8 <b>TOC Surface</b>
	Production Excess 25%	Lead: 600 sx Interfill H with 0.3% HR-601, 5 lb/ sx Gilsonite, 0.125 lb/ sx Poly-E-Flake, mixed at 11.9 ppg. Yield 2.47 cf/ sx. Tail: 462 sx Super H with 0.5% Halad ® 344, 0.25% D-Air 3000, 0.4% CFR-3, 1 lb/ sx Salt, 5 lb/ sx Gilsonite, 0.125 lb/ sx Poly-E-Flake, 0.35% HR-7 mixed at 13.2 ppf. Yield 1.61 cf/ sx <b>TOC Surface</b>
	Liner Excess 25%	428 sx 50:50 Poz:H + 2%D20 + 0.2% D112 + 0.2% D65, Yield 1.24, 14.58 ppg <b>Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.</b>

According to the State Engineer, depth to groundwater is 13. Fresh water zones will be protected by setting 13½" casing at 450 and cementing to surface. Hydrocarbon zones will be protected by setting 9½" casing at 1766 and 7" to 9168 and cementing to surface.

Collapse Factor  
1.125

Burst Factor  
1.125

Tension Factor  
1.6

Application to Drill  
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Unit H, Section 27  
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12. Pressure control Equipment:

Exhibit "E". A 13 $\frac{3}{8}$ " 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 215.' A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be utilized if drilling in potential H<sub>2</sub>S area.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

BOPs will be tested by an independent service company to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 psi high.

Cimarex Energy Co. of Colorado (operator) requests a variance if Cactus 122 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 211964 See attached htdrostatic test report

Length: 35' Size: 4-1/16" Ends - flanges/clamps

WP rating: 10,000 psi Anchors required by manufacturer – Yes/No

13. Testing, Logging and Coring Program: *See COA*

A. Mud logging program: No mud logging program.

B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR

C. DSTs or Cores:

14. Potential Hazards:

No abnormal pressures, or temperatures are expected. In accordance with Onshore Order 6, Cimarex has encountered H<sub>2</sub>S in a one-time encounter in an Intra-salt Pocket and while drilling and completing wells in the Delaware Mountain Group. In this regard, attached is an H<sub>2</sub>S Drilling Operations Plan. The ROEs encountered do not meet the BLM's minimum requirements for the submission of a "Public Protection Plan" for the drilling and completion of this well. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP                      **4000 psi**                      Estimated BHT                      **175°**

15. Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take                      25-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

16. Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Wolfcamp pay will be perforated and stimulated.

The proposed well will be tested and potential as                      **a gas well.**

# **Cimarex Energy Co. (Midland)**

Eddy County (NM83E)

Sec 27-T25S-R26E

Chosa Draw 27 Fed Com #7

Wellbore #1

Plan: Plan #2

## **Standard Planning Report**

15 March, 2011

# Great White Directional Services

## Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chosa Draw 27 Fed Com #7
Company:	Cimarex Energy Co. (Midland)	TVD Reference:	WELL @ 3289.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	MD Reference:	WELL @ 3289.0usft (Original Well Elev)
Site:	Sec 27-T25S-R26E	North Reference:	Grid
Well:	Chosa Draw 27 Fed Com #7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 27-T25S-R26E		
Site Position:		Northing:	398,382.33 usft
From:	Map	Easting:	558,643.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 42.793 N
		Longitude:	104° 16' 38.807 W
		Grid Convergence:	0.03 °

Well	Chosa Draw 27 Fed Com #7		
Well Position	+N/-S	2,347.6 usft	Northing: 400,729.90 usft
	+E/-W	1,272.8 usft	Easting: 559,916.70 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 3,272.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination: (°)
	IGRF200510	02/21/11	7.92
			Dip Angle (°)
			59.98
			Field Strength (nT)
			48,532

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			274.96

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,268.0	0.00	0.00	9,268.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,724.4	91.29	274.96	9,554.4	25.3	-291.8	20.00	20.00	0.00	274.96	
13,708.0	91.29	274.96	9,464.7	369.7	-4,259.5	0.00	0.00	0.00	0.00	Chose Draw #7

# Great White Directional Services

## Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chosa Draw 27 Fed Com #7
Company:	Cimarex Energy Co. (Midland)	TVD Reference:	WELL @ 3289.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	MD Reference:	WELL @ 3289.0usft (Original Well Elev)
Site:	Sec 27-T25S-R26E	North Reference:	Grid
Well:	Chosa Draw 27 Fed Com #7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,268.0	0.00	0.00	9,268.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 22°/DLS @ 274.96° AZI</b>									
9,724.4	91.29	274.96	9,554.4	25.3	-291.8	292.9	20.00	20.00	0.00
<b>EOC - Hold to TD</b>									
13,707.5	91.29	274.96	9,464.7	369.6	-4,259.0	4,275.0	0.00	0.00	0.00
<b>TD at 13707.5</b>									
13,708.0	91.29	274.96	9,464.7	369.7	-4,259.5	4,275.5	0.00	0.00	0.00

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,816.0	1,816.0	Delaware		0.00		
5,574.0	5,574.0	Bone Spring		0.00		
8,542.0	8,542.0	Wolfcamp		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
9,268.0	9,268.0	0.0	0.0	KOP 22°/DLS @ 274.96° AZI	
9,724.4	9,554.4	25.3	-291.8	EOC - Hold to TD	
13,707.5	9,464.7	369.6	-4,259.0	TD at 13707.5	

**CIMAREX**

Project Eddy County (NM83E)  
 Site Sec 27-T25S-R26E  
 Well Chosa Draw 27 Fed Com #7  
 Wellbore Wellbore #1  
 Design Plan #2

## WELL DETAILS: Chosa Draw 27 Fed Com #7

+N/-S	+E/-W	Northing	Easting	3272.0	Latitude	Longitude
	0.0	400729.90	559916.70	32° 6' 6.018 N	104° 16' 23.995 W	
SHL: 2320' FNL / 400' FEL						
BHL: 1980' FNL / 660' FWL						



Azimuths to Grid North

Total Correction: 7.89°

Magnetic Field  
 Strength 48532 OerT  
 Dip Angle 59.98°  
 Date 02/21/2011  
 Model: IGRF200510

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Chosa Draw #7	9465.0	369.9	-4259.4	401099.76	555657.25

## PLAN DETAILS

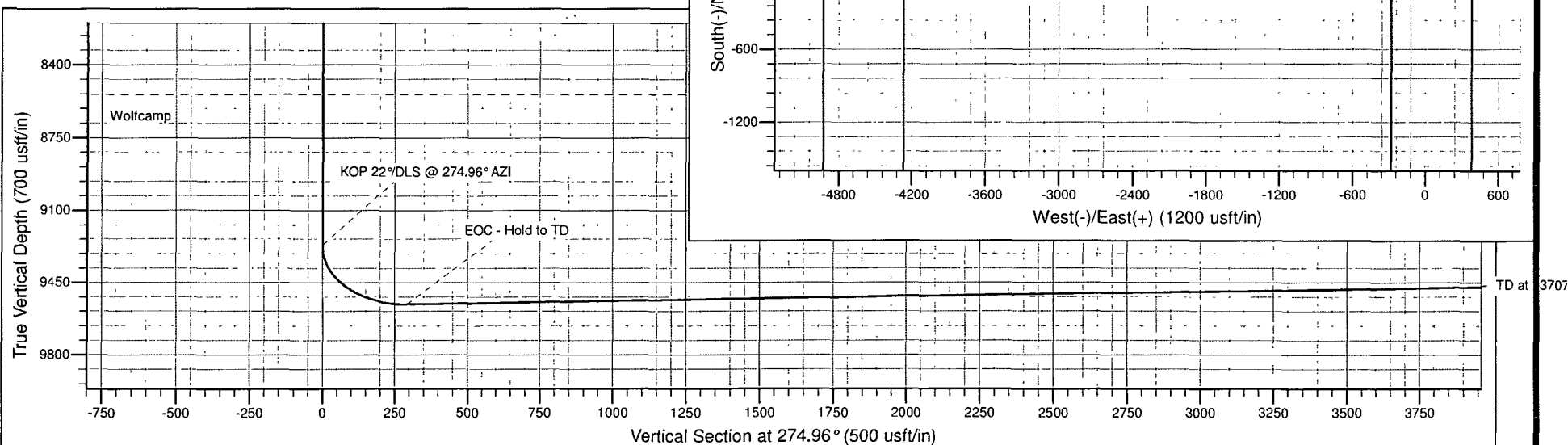
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeCT	Target
0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
268.0	0.00	0.00	9268.0	0.0	0.0	0.00	0.00	0.0	
3724.5	91.29	274.96	9554.4	25.3	-291.8	20.00	274.96	292.9	
10708.0	91.29	274.96	9464.7	369.7	-4259.5	0.00	0.00	4275.5	Chose Draw #7

## ANNOTATIONS

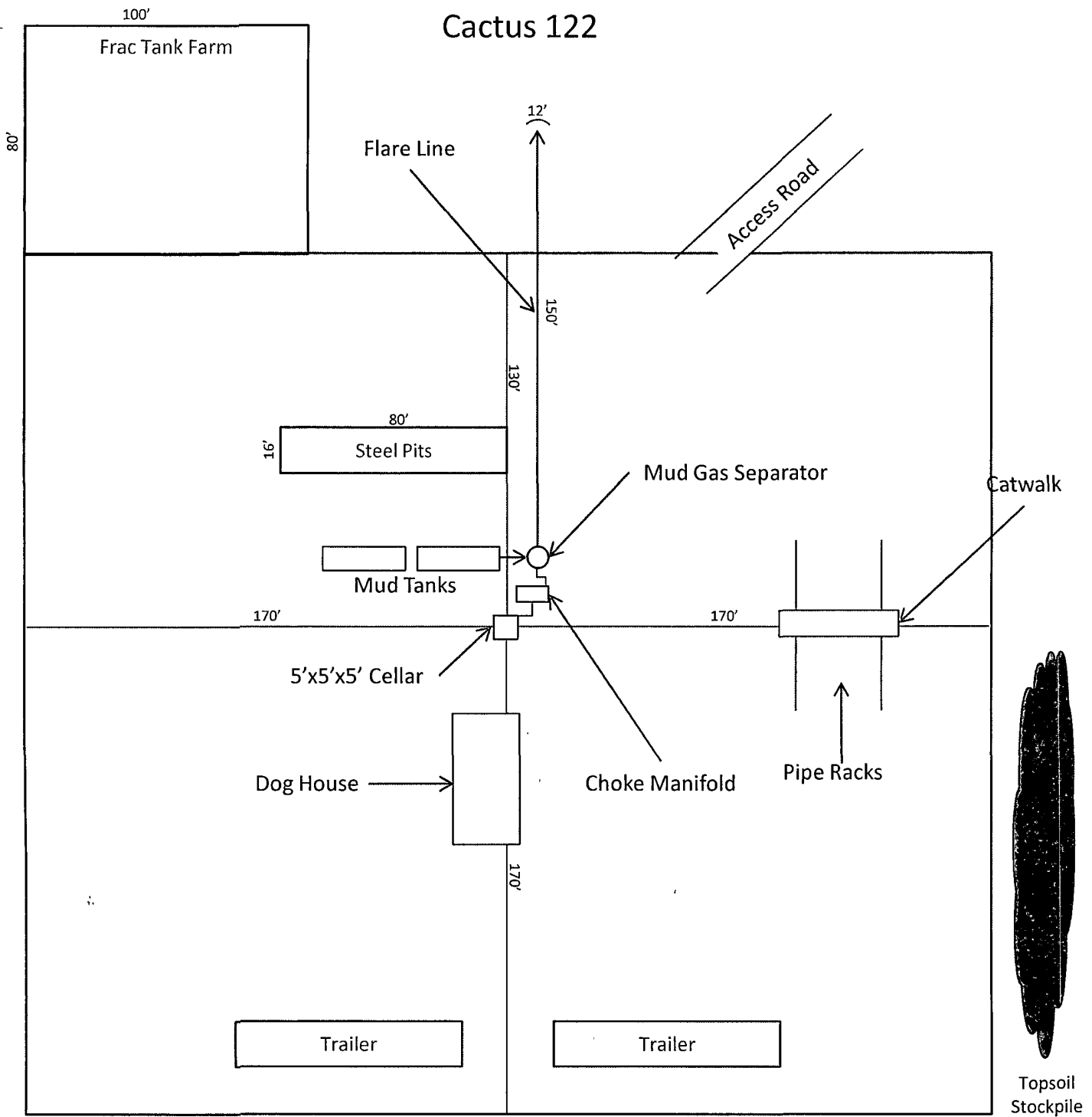
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSeCT	Departure	Annotation
9268.0	9268.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP 22°DLS @ 274.96° AZI
9554.4	9724.4	91.29	274.96	25.3	-291.8	292.9	292.9	EOC - Hold to TD
9464.7	13707.5	91.29	274.96	369.6	-4259.0	4275.0	4275.0	TD at 13707.5

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
1816.0	1816.0	Delaware	0.00	
5574.0	5574.0	Bone Spring		
8542.0	8542.0	Wolfcamp		







1"=50'

Exhibit D – Rig Diagram  
**Chosa Draw 27 Federal Com No. 7**  
 Cimarex Energy Co. of Colorado  
 27-25S-26E  
 SHL 2320 FNL & 400 FEL  
 BHL 1980 FNL & 660 FWL  
 Eddy County, NM

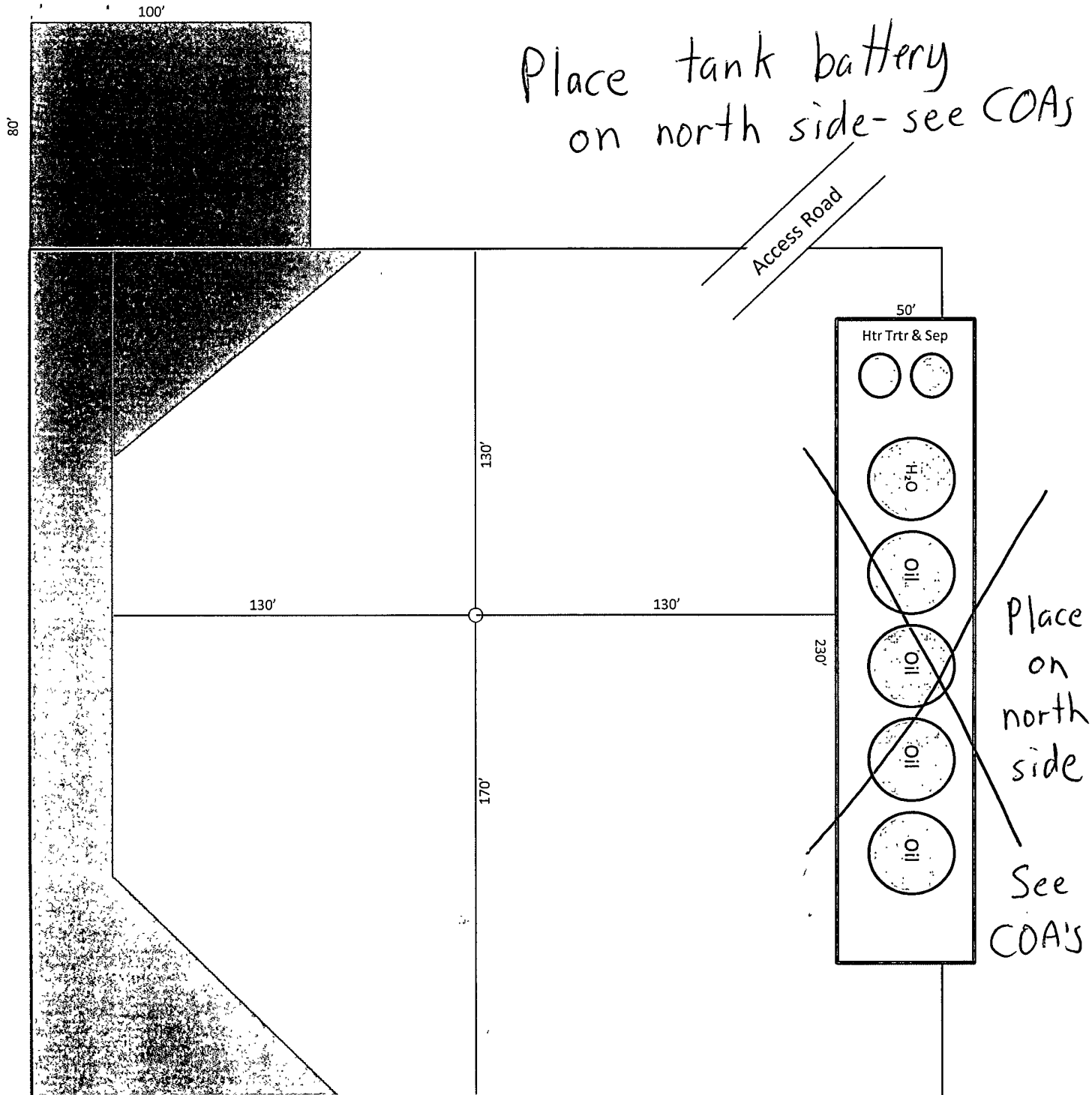
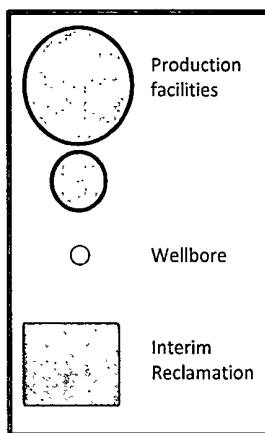


Exhibit D-1  
**Chosa Draw 27 Federal Com No. 7**  
 Cimarex Energy Co. of Colorado  
 27-25S-26E  
 SHL 2320 FNL & 400 FEL  
 BHL 1980 FNL & 660 FWL  
 Eddy County, NM



1"=50'

SR & A

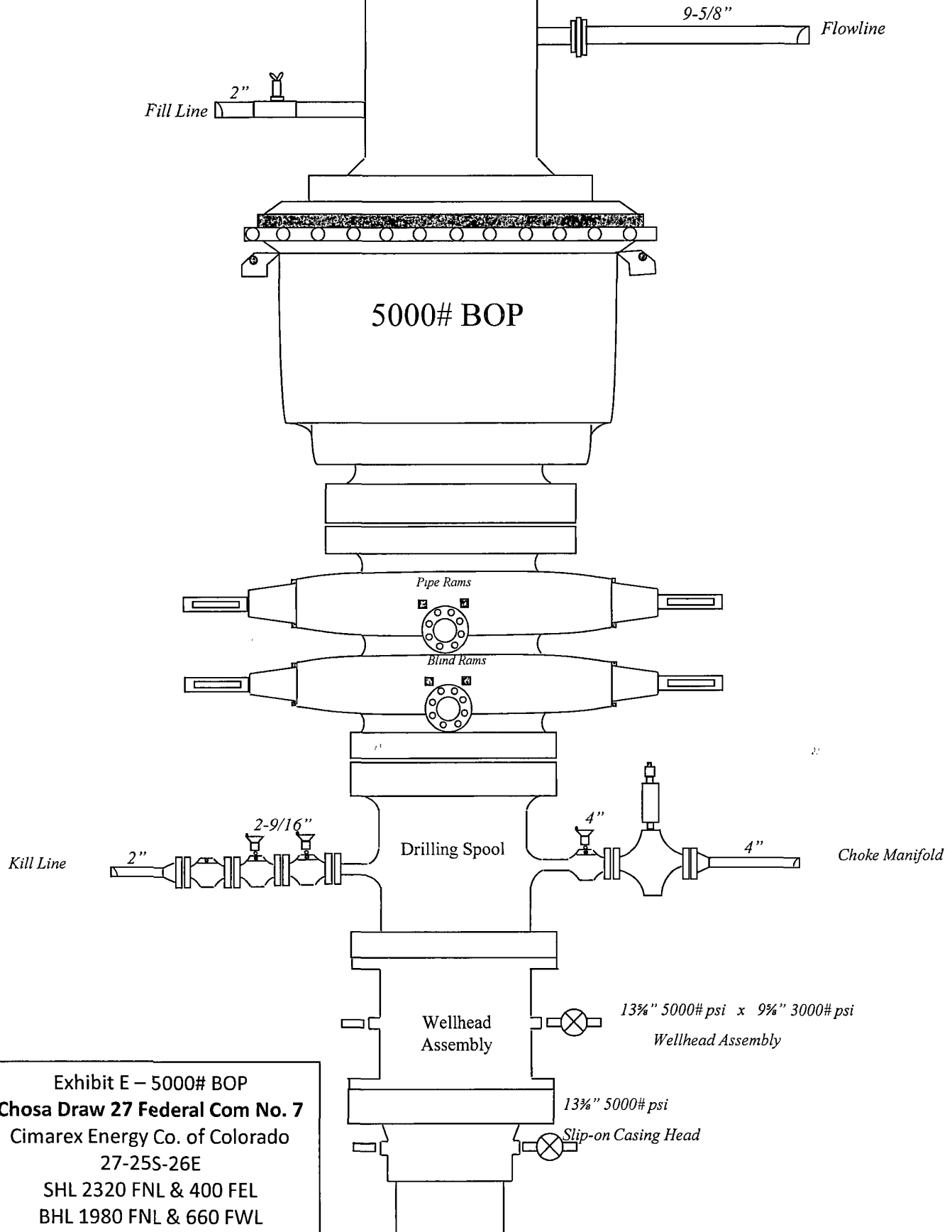


Exhibit E – 5000# BOP  
Chosa Draw 27 Federal Com No. 7  
Cimarex Energy Co. of Colorado  
27-25S-26E  
SHL 2320 FNL & 400 FEL  
BHL 1980 FNL & 660 FWL  
Eddy County, NM

# Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram

Chosa Draw 27 Federal Com No. 7

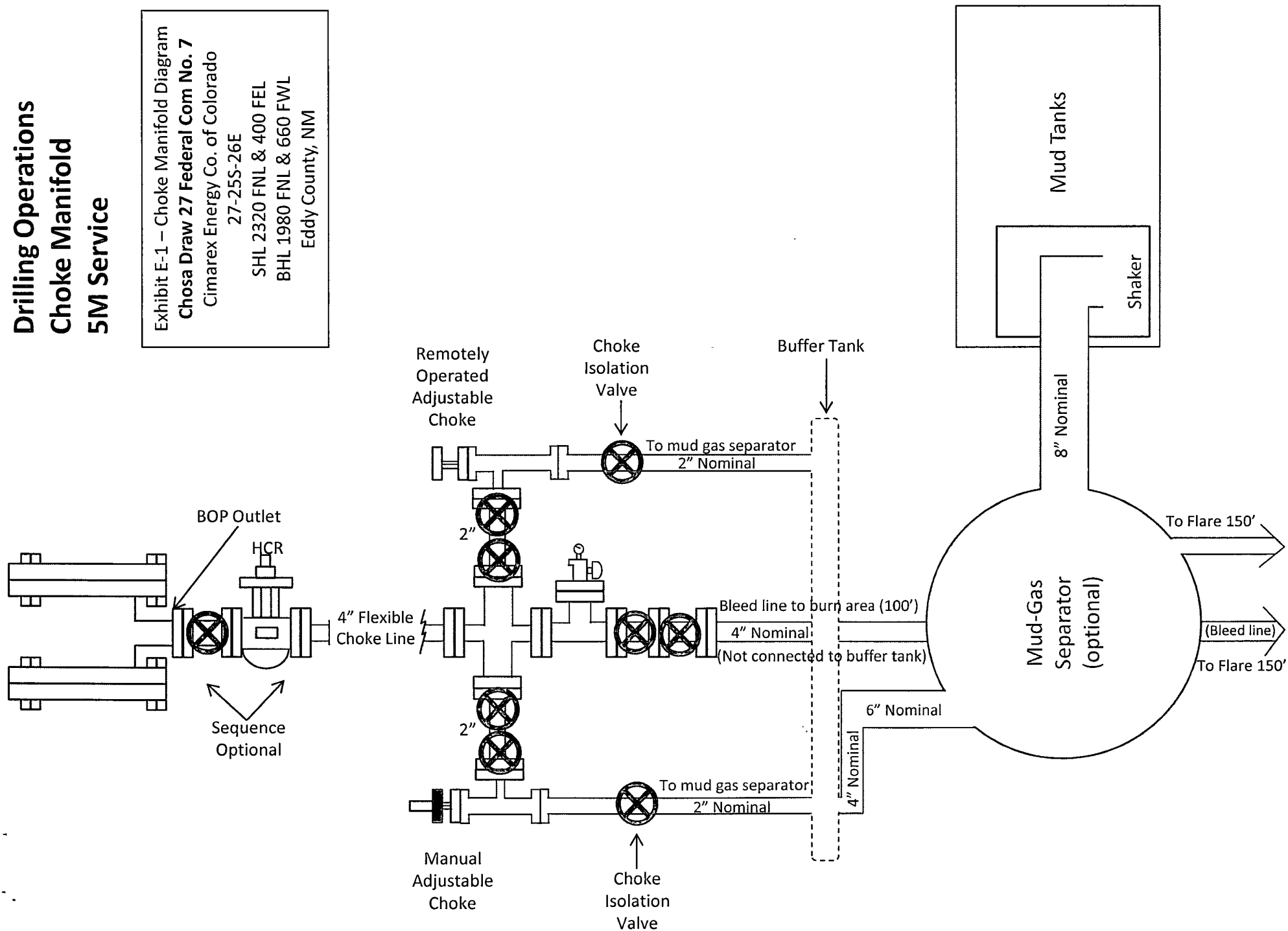
Cimarex Energy Co. of Colorado

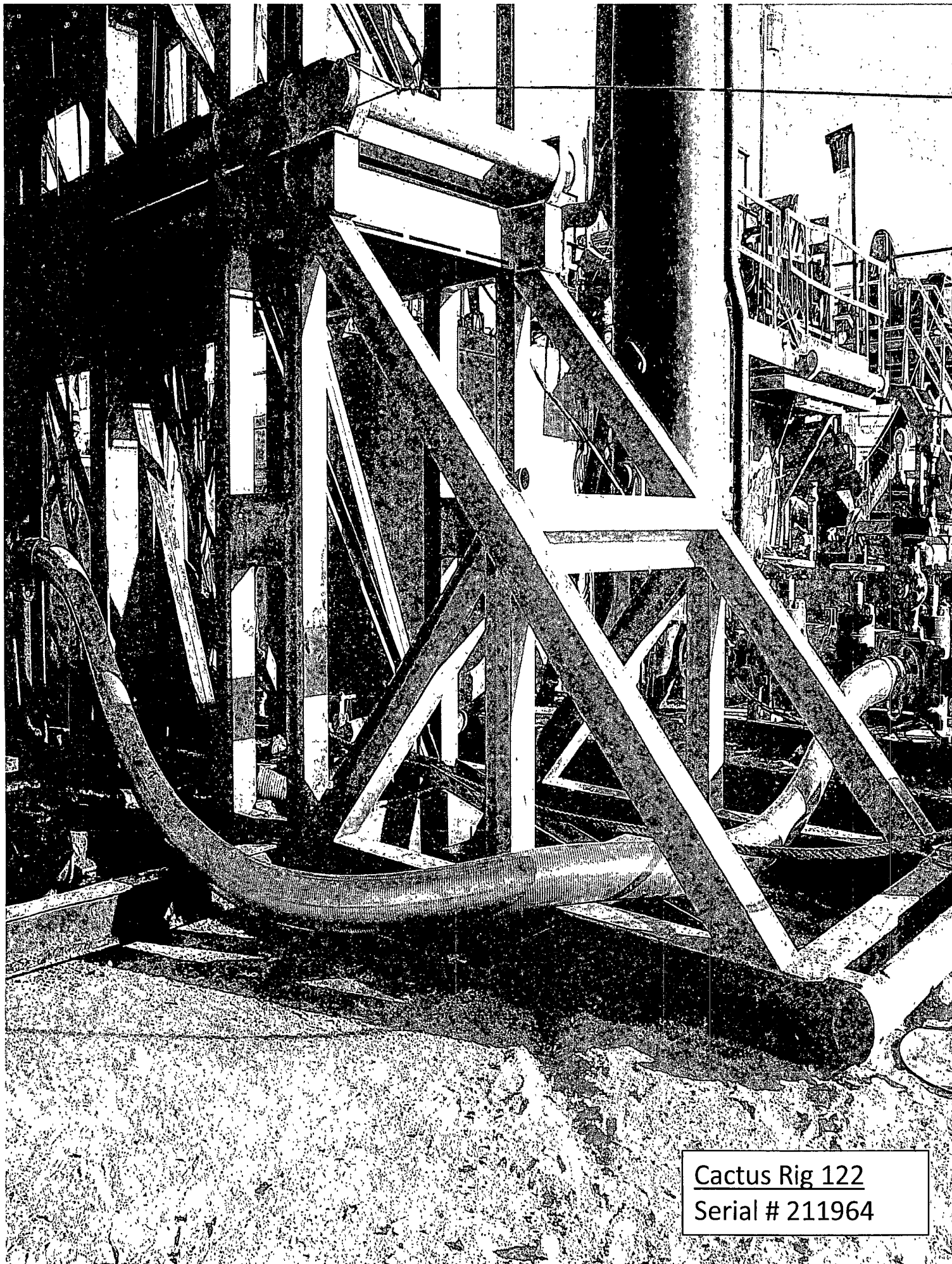
27-25S-26E

SHL 2320 FNL & 400 FEL

BHL 1980 FNL & 660 FWL

Eddy County, NM





Cactus Rig 122  
Serial # 211964

**M I D W E S T**  
**HOSE AND SPECIALTY INC.**

<b>INTERNAL HYDROSTATIC TEST REPORT</b>			
<b>Customer:</b> CACTUS		<b>P.O. Number:</b> Asset#M4812	
<b>HOSE SPECIFICATIONS</b>			
<b>Type:</b> CHOKER LINE		<b>Length:</b> 35'	
<b>I.D.</b> 4" INCHES		<b>O.D.</b> 8" INCHES	
<b>WORKING PRESSURE</b>  10,000 PSI	<b>TEST PRESSURE</b>  15,000 PSI	<b>BURST PRESSURE</b>  PSI	
<b>COUPLINGS</b>			
<b>Type of End Fitting</b> 4 1/16 10K FLANGE			
<b>Type of Coupling:</b> SWEDGED		<b>MANUFACTURED BY</b> MIDWEST HOSE & SPECIALTY	
<b>PROCEDURE</b>			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
<b>TIME HELD AT TEST PRESSURE</b>  15 MIN.		<b>ACTUAL BURST PRESSURE:</b>  0 PSI	
<b>COMMENTS:</b> s/n#O211964 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
<b>Date:</b> 6/28/2006	<b>Tested By:</b> BOBBY FINK		<b>Approved:</b> MENDI JACKSON



Midwest Hose  
& Specialty, Inc.

## Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

<b>Working Pressure:</b>	5,000 or 10,000 psi working pressure
<b>Test Pressure:</b>	10,000 or 15,000 psi test pressure
<b>Reinforcement:</b>	Multiple steel cables
<b>Cover:</b>	Stainless Steel Armor
<b>Inner Tube:</b>	Petroleum resistant, Abrasion resistant
<b>End Fitting:</b>	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
<b>Maximum Length:</b>	110 Feet
<b>ID:</b>	2-1/2", 3", 3-1/2", 4"
<b>Operating Temperature:</b>	-22 deg F to +180 deg F (-30 deg C to +82 deg C)